CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application

Listing of Claims:

1-27. (Canceled)

28. (Currently Amended) A method of designing ~~an~~ amino acid sequences of a variable domains of a humanized monoclonal antibody comprising:

(a) determining residue identities between the amino acid sequences of a variable domain of a monoclonal antibody to be humanized and ~~the~~ corresponding variable domains of two or more human monoclonal antibodies~~using computer modeling~~;

(b) selecting framework regions from two or more of said corresponding variable domains wherein each framework region has a sequence identity of approximately 75.0 to 92.3% to the corresponding framework region in the monoclonal antibody to be humanized;

(c) incorporating the framework regions selected in step (b) with the complementarity determining regions of the monoclonal antibody to be humanized to design a humanized variable domain, wherein at least two of said framework regions are from different human monoclonal antibodies;

(d) retaining selected amino acid residues from the framework regions of the monoclonal antibody to be humanized in the corresponding framework regions of the humanized variable domain if one or more of said selected amino acids are predicted to have contacts with said complementarity determining regions affecting the affinity and specificity of the resultant humanized monoclonal antibody; and

(e) obtaining amino acid sequences of the variable domains of the light and heavy chain regions of the resultant humanized monoclonal antibody.

29. (Previously presented) The method according to claim 28, wherein at least three of said framework regions are from different human monoclonal antibodies.

30. (Previously presented) The method according to claim 28, wherein said framework regions are from the heavy chain region of different human monoclonal antibodies.

31. (Previously presented) The method according to claim 28, wherein said selected amino acid residues of step (d) are within a 4.5 Angstrom radius of all atoms within each complementarity determining regions of the light and heavy chain of the resultant humanized monoclonal antibody.

32. (Previously presented) A method of producing a humanized monoclonal antibody designed according to the method of claim 28, comprising the additional steps of:

(f) preparing a DNA sequence encoding the variable domains of the resultant humanized monoclonal antibody based upon the designed amino acid sequence;

(g) operably incorporating the DNA sequences into at least one vector comprising the constant domains of the light and heavy chain regions;

(h) introducing the vector into a cell; and

(i) culturing the cell under conditions to produce the humanized monoclonal antibody.